Ten-Mile Building Challenge
Certification Application
Cover Sheet

Low Technology Institute
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Applicant Information

Name: Title (if any):
Address:

Telephone: Email Address:
Relationship to Project:

About the Building (see instructions for details)

Building Title (if any):
Building Address:

Building Coordinates: 42.834646 or 42°50'04.7" ☐ N ☐ S 89.237761 or 89°14'15.9" ☐ E ☐ W
Structure Footprint: (exterior measurement) No. of Floors: (inc'l basements)
Total Enclosed Footage: (indoor floor square footage) ☐ Projected or ☐ Actual Cost:
Certifications Sought: ☒ Structure ☐ Utilities ☐ Aesthetics and Comfort—Include Form(s) for Each Cert.
Type of Certification: ☐ Self-Certification (free) ☐ Formal Certification (0.1% of structure cost:)

Principal Building Materials:

(Timber, Earthbags, Reclaimed Windows, Etc.)

Principal Utilities:

(Water, HVAC, Power, etc.)

Structure Description and Narrative:

(narrative description; may be used in promotional materials to describe your structure)

☐ I understand that the information on this form may be used in promotional materials related to the Ten-Mile Building Challenge, limted to the description, structure name, city and state location, and photos. And that additional information will only be shared with explicit consent.

Signature: Date:

(Jan. 2022)

Ten-Mile Building Challenge
Certification Application
Structural Distance Audit

Page of

☐ Self-Certification
☐ Formal Certification

Name:
Building Title:

	Item:	Weight (lb/kg):	Origin:	tance (mi/kg):	Total lb-mi:
a)					
b)					
c)					
d)					
e)					
f)					
g)					
h)					
i)					
j)					
k)					
l)					
m)					
n)					
o)					
p)					
q)					
r)					
s)					
t)					
u)					
v)					
w)					
x)					
y)					
z)					
	Page Total Weight:			Page Total lb-mi:	

If additional pages are needed, collate each behind the first.
Sum all totals on the first page:

Sum of Total lb-mi From All Pages:		
Sum of Total Weights From All Pages:	÷	
Average miles:		

If seeking formal certification, attach pages of scans of receipts, photographs, etc., labeled with each item's page and line letter (e.g., "2-s" refers to page 2, line s)

Ten-Mile Building Challenge
Certification Application
Utility Audit

☐ Self-Certification
☐ Formal Certification

Name:
Building Title:

Heating

Heating System: (forced air, radiator, etc.)
Thermal Enhancements: (insulation, solar positioning, surface:volume ratio, etc.)
System Embodied eCO_2: (of system components plus enhancements plus transport; include source of figures; attach page if needed)
Heating Fuel: (wood, nat. gas., electric, etc.)
Annual BTUs: ☐ Estimated ☐ Actual
Annual Fuel Use: (kWh, therms, cords, etc.) ☐ Estimated ☐ Actual
eCO_2 per Fuel Unit*: eCO Citation:
% of Fuel from ≤10 mi: %
Annual Local eCO_2: (annual use × eCO/unit × % from 10 mi) × 20 = ("Lifetime Local eCO")
Annual Distant eCO_2: (annual use × eCO/unit × (1 - % from 10 mi)) × 20 = ("Lifetime Distant eCO")
System Embodied eCO_2: + (from above)

Lifetime Total eCO_2:

Lifetime Local eCO_2: (Annual Local eCO × 20)
Lifetime Total eCO_2: ÷ (from just above, right)

Local eCO_2 Ratio: (0.00 – 1.00)
× 100

Local eCO_2 Percent: %

Cooling

Cooling System: (forced air, earth tubes, evaporative, etc.)
Thermal Enhancements: (insulation, solar positioning, surface:volume ratio, etc.)
System Embodied eCO_2: (of system components plus enhancements plus transport; include source of figures; attach page if needed)
Cooling Fuel: (electric, evaporation, etc.)
Annual BTUs: ☐ Estimated ☐ Actual
Annual Fuel Use: (kWh, N/A, etc.) ☐ Estimated ☐ Actual
eCO_2 per Fuel Unit*: eCO eCO_2 per BTU: eCO Citation:
% of Fuel from ≤10 mi: %
Annual Local eCO_2: (annual use × eCO/unit × % from 10 mi) × 20 = ("Lifetime Local eCO")
Annual Distant eCO_2: (annual use × eCO/unit × (1 - % from 10 mi)) ("Lifetime Distant eCO")
System Embodied eCO_2: + (from above)

Lifetime Total eCO_2:

Lifetime Local eCO_2: (Annual Local eCO × 20)
Lifetime Total eCO_2: ÷ (from just above, right)

Local eCO_2 Ratio: (0.00 – 1.00)
× 100

Local eCO_2 Percent: %

Ten-Mile Building Challenge
Certification Application
Utility Audit (continued)

☐ Self-Certification
☐ Formal Certification

Name:
Building Title:

Water

Water System(s): (short description)
Water Source(s): (municipal, well, rain, body of water, etc.)
System Embodied eCO_2: (of system components plus transport; include source of figures; attach page if needed)
System Power: (electric, wind, etc.)
Annual Energy Use: (kWh, kWh equiv., etc.) ☐ Estimated ☐ Actual
eCO_2 per Energy Unit*: eCO Citation:
% of Fuel from ≤10 mi: %
Annual Local eCO_2: (annual use × eCO/unit × % from 10 mi) × 20 = ("Lifetime Local eCO")
Annual Distant eCO_2: (annual use × eCO/unit × (1 - % from 10 mi)) × 20 = ("Lifetime Distant eCO")
System Embodied eCO_2: + (from above)

Lifetime Total eCO_2:

Lifetime Local eCO_2: (Annual Local eCO × 20)
Lifetime Total eCO_2: ÷ (from just above, right)

Local eCO_2 Ratio: (0.00 – 1.00)
× 100

Local eCO_2 Percent: %

Sewage

Sewage System(s): (short description)
Water Source(s): (municipal, well, rain, body of water, etc.)
System Embodied eCO_2: (of system components plus transport; include source of figures; attach page if needed)
System Power: (electric, wind, etc.)
Annual Energy Use: (kWh, kWh equiv., etc.) ☐ Estimated ☐ Actual
eCO_2 per Energy Unit*: eCO Citation:
% of Fuel from ≤10 mi: %
Annual Local eCO_2: (annual use × eCO/unit × % from 10 mi) × 20 = ("Lifetime Local eCO")
Annual Distant eCO_2: (annual use × eCO/unit × (1 - % from 10 mi)) × 20 = ("Lifetime Distant eCO")
System Embodied eCO_2: + (from above)

Lifetime Total eCO_2:

Lifetime Local eCO_2: (Annual Local eCO × 20)
Lifetime Total eCO_2: ÷ (from just above, right)

Local eCO_2 Ratio: (0.00 – 1.00)
× 100

Local eCO_2 Percent: %

Ten-Mile Building Challenge
Certification Application
Utility Audit (continued)

☐ Self-Certification
☐ Formal Certification

Name:
Building Title:

Electricity

Electric System(s): (short description)
Power Source(s): (solar, wind, microhydro, grid, generator, etc.)
System Embodied eCO_2: (of system components plus transport; include source of figures; attach page if needed)
Energy Audited: ☐ Grand Total ☐ Energy Deducted From:
☐ Heating ☐ Cooling ☐ Water ☐ Sewage
Annual Energy Use: (kWh, kWh equiv., etc.) ☐ Estimated ☐ Actual
Annual Energy Prod.: (kWh, kWh equiv., etc.) ☐ Estimated ☐ Actual
eCO_2 per Energy Unit*: eCO Citation:
% of Fuel from ≤10 mi: %
Annual Use Local eCO_2: (annual use × eCO/unit × % from 10 mi) × 20 = ("Lifetime Local eCO")
Annual Use Distant eCO_2: (annual use × eCO/unit × (1 - % from 10 mi)) × 20 = ("Lifetime Distant eCO")
System Embodied eCO_2: + (from above)

Lifetime Total eCO_2 Use:

Lifetime Local eCO_2 Prod.: (Annual Energy Prod. × eCO/unit × % from 10 mi × 20)
Lifetime Total eCO_2 Use: ÷ (from just above, right)

Local eCO_2 Ratio: (0.00 – 1.00+)
× 100

Local eCO_2 Percent: %

*Solar, wind, hydro, and other sources with zero emissions during generation (not counting embodied costs) can be listed as a negative eCO_2. That figure is calculated as the average current emissions of that location's grid per k- or MWh. This can be found at the EPA's eGrid Power Profiler. Find the carbon dioxide equivalent using the following formula: $eCO_2 = CO_2 + (CH_4 \times 25) + (S_2O \times 298)$. It is possible, then to generate more than 100 percent.

Ten-Mile Building Challenge
Certification Application
Aesthetics and Design

☐ Self-Certification
☐ Formal Certification

Name:
Building Title:

Letter Grade

Type of Structure: (residence, office, public space, utility building, etc.)
Primary Purpose: (e.g., house 4-person family, store farm equipment, haredware store, etc.)

See instructions for further explanation.

Purpose: Does the structure meet its primary purpose(s)?

☐ 1) Just meets purpose. ☐ 2) Meets purpose. ☐ 3) Easily meets purpose. ☐ 4) Exceeds purpose.

Materials: What is the quality and longevity of materials?

☐ 1) Meet basic standards and code. ☐ 2) Better quality for some materials.
☐ 3) High quality structural and key materials. ☐ 4) High quality for all or most materials.

Utility: What is the quality and integration of utilities?

☐ 1) Sufficient, independent utilities. ☐ 2) Good quality but little to no integration.
☐ 3) Better quality and some integration. ☐ 4) Better quality with good integration.

Design: Conception and design can be described as:

☐ 1) borrowed from other designs without adaptation. ☐ 2) some borrowed designs adapted for this applicatio
☐ 3) all or most designs are well adapted for this use. ☐ 4) innovative design in addition to adapting borrowed concepts.

Total Score:
Letter Grade:

A Grade (15–16 points): Exceeds and Exemplifies Purpose and Design
B Grade (11–14 points): Comfortably Meets Purpose and Design
C Grade (7–10 points: Adequately Meets Purpose and Design
D Grade (4–6 points): Scarcely Meets Purpose and Design

Grade Justification:

(attach photographs or additional pages if necessary)

Ten-Mile Building Challenge
Certification Application
Aesthetics and Design

☐ Self-Certification
☐ Formal Certification

Name:
Building Title:

Aesthetics Plus or Minus

Minus
A building that appears hastily put together, with minimal consideration of appearance beyond completion of the minimum of finishing.

No Grade
A building that is completed in a workman-like fashion, with no obvious faults in the finish and appearance.

Plus
A building that has clear effort given to final appearance. The finish and appearance are both flawless and well conceived. The presence of decorative elements are not required if the structural elements themselves are finished in a pleasing way.

Quality Sought:
Quality Justification:

(attach photographs or additional pages if necessary)